

Ethylene Oxide (EtO) Commercial Sterilization

CAA Section 114 Survey

Introduction

The U.S. Environmental Protection Agency (EPA) is requesting facility data and information to inform the Technology Review project for 40 CFR Sterilization source category. The purpose of this survey is to enable facilities to submit accurate facility information. For more detailed instructions, see the Section 114 transmittal letter at: <https://www.epa.gov/stationary-sources-air-pollution/ethylene-oxide-emissions-standards-sterilization-facilities>

Instructions

This survey contains sheets and data fields shaded in different colors. As a general rule:

Sheets and fields shaded in blue indicate that reporters shall provide inputs according to the corresponding instructions
Sheets and fields shaded in gold contain instructions and supporting information that help reporters with this survey
Fields shaded in gray indicate that these either do not need to be filled out or will be automatically filled out based on reporter's inputs in relevant sections
Fields shaded in red by reporter indicate that these fields contain confidential business information (CBI), and relevant data needs special handling

** If any information you entered contains CBI, select "Yes" in the designated cell (Cell N2) in each tab throughout this survey, shade the fields containing CBI, and follow the instructions specified in the Instructions Document*

This survey contains the following tabs (You may click on the tab names below to visit each individual tab):

Introduction (this tab)	Introduction and instructions for completing and submitting this survey
Terms (link)	Definitions or explanations of certain technical terms that are mentioned throughout this survey
Facility Details (link)	Information about facility registration, ownership, general characteristics, facility-level data, legal documents, etc.
Room Area (link)	Characteristics, inventory of components and control of individual room areas where EtO is used or emitted
EtO & EG Storage (link)	Questions regarding EtO storage in drums and containers, and ethylene glycol (EG) tanks
Sterilizer Chambers (link)	Operation, monitoring and control characteristics of sterilizer chambers
Aeration (link)	Details of aeration equipment
APCD Summary (link)	Information about all air pollution control devices operated by facility
APCD Details (link)	Details regarding air pollution control devices such as scrubbers, catalytic oxidizers, thermal oxidizers, etc.
EtO Monitoring (link)	Information about workspace monitoring, personal monitoring, room monitoring, etc. conducted by facility
Miscellaneous (link)	Questions regarding facility's wastewater treatment and other items of EtO commercial sterilization operations
Additional Info (link)	Use this tab if you need extra space to provide any additional information requested within this survey
Attachments (link)	Designated fields for reporter to attach documents requested throughout this survey
Certification (link)	Reporter's information and certification for completing and submitting this survey

If you need extra space to provide any additional information within this survey, use the space provided in Section M in Additional Info tab

Submitting Completed Surveys

There are two ways to submit your survey that contains no CBI information:

- (1) Save the completed survey on a CD, DVD or thumb drive, and mail it to:
U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
U.S. EPA Mailroom (E143-05)
Attn: Mr. Jonathan Witt
- (2) Email to Mr. Jonathan Witt at: Witt.Jon@epa.gov

To submit your survey that does contain CBI information, see the Instructions Document to the Section 114 transmittal letter

part 63, subpart O, Commercial
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[ilities](#) (click to visit).

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Ethylene Oxide (EtO) Commercial Sterilization

CAA Section 114 Survey

[Click here to return to Introduction tab](#)

1. Definitions

Term	Definition
Accelerated aeration	Aeration conducted in a heated aeration chamber or cell, not an aeration room, combined with
Aeration cell/chamber	Any vessel that is used to facilitate off-gassing of ethylene oxide at a sterilization facility. If si
Aeration room	Any vessel or room that is used to facilitate off-gassing of ethylene oxide at a sterilization fac
Aeration room vent (ARV)	The point(s) through which the evacuation of ethylene oxide-laden air from an aeration room
Balancer/abator system	An air pollution control device (APCD) that consists of a combination of a water balancer and
Cascading air	Ventilation air removed from one room area or process, with a lower EtO concentration, is ve
Chamber exhaust vent (CEV)	The point(s) through which ethylene oxide-laden gas is removed from the sterilization chamb
Combination-chamber sterilizer	Any enclosed vessel in which both the sterilization process and the aeration process occur wi
Dwell period	The length of time that the product is exposed to ethylene oxide in sterilizer chamber for the
Engineering test	A test that measures the amount of pollutants being emitted, demonstrates the capture effic
Ethylene oxide (EtO) service	A piece of equipment either contains or contacts ethylene oxide as a liquid or gas at any conc
Fugitive emissions	Emissions (of ethylene oxide) which are not routed through the existing control equipment
Natural draft opening (NDO)	Any permanent opening in the enclosure that remains open during operation of the facility a
Performance test	A test that measures the amount of pollutants being emitted, demonstrates the capture effic
Research and laboratory facility	Any stationary source whose primary purpose is to conduct research and development into n
Single-item sterilizer	Any enclosed vessel in which sealed pouches containing product and ethylene oxide gas for t
Sterilization chamber vent (SCV)	The point (prior to vacuum pump) through which the evacuation of ethylene oxide from the s
Sterilization facility	Any stationary source where ethylene oxide is used in the sterilization or fumigation of mate
Sterilization operation	Any time when ethylene oxide is removed from the sterilization chamber through the steriliz
Sterilizer chamber	Any enclosed vessel or room that is filled with ethylene oxide gas, or an ethylene oxide/inert

2. Acronyms

Acronym	Term	Acronym	Term
APCD	air pollution control device	ID	identifier
ARV	Aeration room vent	in. H2O	inches of water
CAA	Clean Air Act	kWh	kilowatt hour
CBI	Confidential business information	LEL	lower explosive limit
CEMS	Continuous emissions monitoring system	mg/L	milligrams per liter
CEV	Chamber exhaust vent	NAICS	North American Industrial Classific
cfm	Cubic feet per minute	NDO	natural draft opening
CFR	Code of Federal Regulations	ppmv	parts per million, volun
EG	ethylene glycol	psig	pressure per square inch, g
EIS	Emission Inventory System	QA	quality assurance
EPA	Environmental Protection Agency	QC	quality control
EtO	ethylene oxide	R&D	research and developme
ICR	information collection request	SCV	sterilization chamber ve

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Ethylene Oxide (EtO) Commercial Sterilization

CAA Section 114 Survey

[Click here to return to Introduction tab](#)
[Click here to visit Terms tab](#)
[Click here to visit Additional Info tab](#)

A. Facility Details

Table 1. Facility Information

Field #	A-1	A-2	A-3	A-4
Data	Primary NAICS code	EIS ID	Facility name	Facility address
Instruction	Enter the primary NAICS code for the facility *	Enter EIS ID for the facility	Enter facility name	Enter the street address of facility verified by U.S. Postal Service (USPS). Do <u>not</u> include P.O. box in this field
Response	561910	7582111	Sterigenics US LLC Santa Teresa	2400 Airport Rd

* For assistance in determining your facility's NAICS code, see the website for the North American Industry Classification System (NAICS), [mai](#)

Table 2. Parent Company Information

Field #	A-13	A-14	A-15	A-16
Data	Parent company	Parent company address	Parent company city	Parent company state
Instruction	Enter parent company name	Enter the street address of parent company verified by U.S. Postal Service (USPS). Do <u>not</u> include P.O. box in this field	Enter parent company city	Select from the dropdown menu in this column
Response	Sterigenics US LLC	2015 Spring Road Suite 650	Oak Brook	IL

* To determine the employee threshold for a small business, you may look up the small business size standard using six-digit NAICS codes. The §121.201, "What size standards has SBA identified by North American Industry Classification System codes?", table "Small Business Size Standard Website for the Small Business Administration: <https://www.sba.gov/>. (click to visit) Code of Federal Regulations (CFR), part 121: <https://www.ecfr.gov/cgi-bin/text-idx?SID=85df5b118508b127a9b324c6583f72c6&mc=true&nc>

Table 3. Facility Documents

Field #	A-21	A-22	A-23
Data	Facility diagrams	Process flow diagrams	Most recent air permit(s)
Instruction	Provide diagrams of your facility	Provide process flow diagrams of the	Provide the most recent air permit(s)
Response	Attach all requested documents in the	Attach all requested documents in	Attach all requested documents in the

Table 4. Facility Buildings

Field #	A-26	A-27	A-28	A-29
Data	Building ID	Building height	Building corner 1	Building corner 2
Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each building	Enter the (average) height of the building (feet)	Enter the latitude of this building corner. Specify to the 6th decimal point	Enter the longitude of this building corner. Specify to the 6th decimal point
Response				

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right →
If yes, be sure to *shade the fields containing CBI in red*, and follow the instructions specified in the Instructions Document

A-5	A-6	A-7	A-8	A-9	
Facility city	Facility state	Facility zip code	Phone number	Number of employees at facility	Operating status in current year
Enter facility city	Select from the dropdown menu in this column	Enter facility zip code verified by U.S. Postal Service (USPS)	Provide a contact phone number at the facility	Select from the dropdown menu in this column. Full-time, part-time, and temporary employees should be counted equally	Select from the dropdown menu in this column
Santa Teresa	NM	88008	575-589-9300	≤ 100	Operating

Maintained by the U.S. Census Bureau: <https://www.census.gov/eos/www/naics/>. (click to visit)

A-17	A-18	A-19	A-20
Parent company zip code	Phone number	Is parent company a small business?	Number of employees at parent company
Enter parent company zip code verified by U.S. Postal Service (USPS)	Provide a contact phone number at the parent company	Select from the dropdown menu in this column. For more instructions, see the footnote below this table	Select from the dropdown menu in this column
60523	630-928-1700	No	751-1000

Size standards used to define Small Businesses are provided in 13 CFR 121, Small Business Size Regulations. See standards by NAICS Industry, column "Size standards in number of employees".

[code=pt13.1.121&rgn=div5](#). (click to visit)

A-24	A-25
Application documents for the most	Startup, shutdown and malfunction
Provide the application documents for	Provide the startup, shutdown and
Attach all requested documents in the	Attach all requested documents in the

A-30	A-31	A-32	A-33
Building corner 3	Building corner 4 (if any)	Building corner 5 (if any)	Building corner 6 (if any)
Enter the latitude of this building corner. Specify to the 6th decimal point	Enter the longitude of this building corner. Specify to the 6th decimal point	Enter the latitude of this building corner. Specify to the 6th decimal point	Enter the longitude of this building corner. Specify to the 6th decimal point

A-10	A-11		A-12	
Comments	Operating hours		Is there a plan to expand/modify/close this facility in the near future?	
If you choose an option other than "operating" in the previous column, please add a brief comment in this column	Enter the <u>daily</u> operating hours on average of the facility (hours)	Enter the <u>annual</u> operating hours on average of the facility (hours)	Select from the dropdown menu in this column	Provide a short explanation if you select "Yes" on the left
	24.00	8760.00	No (skip to A-13)	N/A

33	A-34		A-35
ner 6 (if any)	Building corner 7 (if any)		Additional comments
Enter the longitude of this building corner. Specify to the <u>6th</u> decimal point	Enter the latitude of this building corner. Specify to the <u>6th</u> decimal point	Enter the longitude of this building corner. Specify to the <u>6th</u> decimal point	Enter any additional comments that you may have regarding the information provided in this table about buildings and building corners

Response	ST Building	30.00	31.860060	-106.688001	31.860690	-106.687539
	ST Building Office	28.00	31.861171	-106.688412	31.861257	-106.688354

Table 5. Facility-level Data

Field #	A-36		A-37	A-38
Data	EtO usage at your facility for the last 5		Materials sterilized at your facility	Percentage of total materials sterilized
Instruction	Enter <u>calendar year</u> in this column	Enter the corresponding <u>EtO usage</u> in this column (pounds)	List one type of material in each cell	Provide the approximate percentage of total materials sterilized with EtO based on <u>volume of material throughput</u>
Response	2019	1,092,940.00	Medical Products	95.00%
	2018	1,086,463.00	Spices	
	2017	999,804.00	Nutmeat	
	2016	1,015,733.00	Medical Products	
	2015	1,008,672.00	Medical Products	

[illegible]

A-39	A-40		A-41		A-42
Percentage of total materials sterilized	Annual EtO stack emissions of facility		Annual EtO fugitive emissions of		Documentation
Provide the approximate percentage of total materials sterilized with EtO based on <u>dollar amount</u>	Enter <u>calendar year</u> in this column	Enter the <u>value</u> of annual EtO emissions in this column (pounds)	Enter <u>calendar year</u> in this column	Enter the <u>value</u> of annual EtO emissions in this column (pounds)	Provide calculations documentation for EtO and fugitive emission factors use annual EtO emission
	2019	495.74	2019	552.07	Attach all requested documentation "Attachment 1"
	2018	479.91	2018	545.63	
	2017	446.59	2017	499.90	
	2016	458.80	2016	507.87	
	2015	452.09	2015	537.34	

Ethylene Oxide (EtO) Commercial Sterilization

CAA Section 114 Survey

[Click here to return to Introduction tab](#)
[Click here to visit Terms tab](#)
[Click here to visit Additional Info tab](#)

B. Individual Room Area (All Areas where EtO is Used or Emitted)

Table 1. Characteristics of Room Areas

Field #	B-1	B-2	B-3
Data	Room area ID for all rooms and areas where EtO is used or emitted	Category of the room area	Activities conducted in the room
Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each room	Select from the dropdown menu in this column	Provide a brief explanation of the activities in each room
Response	Chamber Module 1	Sterilizer room area	Chamber sterilization and drum dispensing
	Chamber Module 2	Sterilizer room area	Chamber sterilization and drum dispensing
	Chamber Module 3	Sterilizer room area	Chamber sterilization and drum dispensing
	Chamber Module 4	Sterilizer room area	Chamber sterilization and drum dispensing
	AR08	Aeration room	Product aeration after chamber sterilization
	AR09	Aeration room	Product aeration after chamber sterilization
	Chamber and warehousing	Other (sterilizer area, receiving, and shipping)	Chamber sterilization and drum dispensing shipping and receiving of product.
	Scrubber Room	APCD room	Room for Ceilcote scrubber equipment

[illegible]

Table 2. Natural Draft Openings (NDO)

Field #	B-1	Natural c			
Data	Room area ID for all rooms and areas where EtO is used or emitted				
Instruction	This column will be auto-populated based on your entries in the previous fields	NDO ID. Enter from permit description, if available. Otherwise, use a unique identifier for each NDO	Type. Select from the dropdown menu in this column	Orientation. Select from the dropdown menu in this column	Latitude. Specify to the 6th decimal point
Response	Chamber Module 1	No Data Available			
	Chamber Module 2	No Data Available			
	Chamber Module 3	No Data Available			
	Chamber Module 4	No Data Available			
	AR08	No Data Available			
	AR09	No Data Available			
	Chamber and warehousing	No Data Available			
	Scrubber Room	No Data Available			

Table 3. Leak Checks of Components in EtO Service

If leak checks are performed on multiple types of components in a room area, repeat your entries in Fields B-1 and B-22 of this

Field #	B-1	B-22	B-23	B-24	B-25
Data	Room area ID for all rooms and areas where EtO is used or emitted	Are leak checks performed in the room area?	Component type	Total component count	What is the percentage of components that are included in regular leak checks?

[illegible]

[illegible]

B-31	B-32
Average percentage of leaking components identified	Definition of leak

[illegible]

B-34	B-35	B-36
Repair method/procedure for the leaks identified	Average cost per repair for leaks identified	Are there any specialty components that are not readily available on site and that need to be ordered in the event of a component replacement?

[illegible]

B-37
Are there any other impediments that would prevent immediate repair of leaks?

[illegible]

[illegible]

Natural draft opening (NDO) 7 (if any)

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Table 4. Room Area Controls

Field #	B-1	B-38	B-39	
Data	Room area ID for all rooms and areas where EtO is used or emitted	Is air from the room area vented to an APCD, used as cascading air, vented to the atmosphere, or handled in any other ways?	APCD 1 for	
Instruction	This column will be auto-populated based on your entries in the previous fields	Select from the dropdown menu in this column	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu. If you select "Other (specify)", be sure to specify between the parent
Response	Chamber Module 1	Atmosphere (fill out B-58 through B-60)		
	Chamber Module 2	Atmosphere (fill out B-58 through B-60)		
	Chamber Module 3	Atmosphere (fill out B-58 through B-60)		
	Chamber Module 4	Atmosphere (fill out B-58 through B-60)		
	AR08	APCD (fill out B-39 through B-56)	CD-3	Catalytic
	AR09	APCD (fill out B-39 through B-56)	CD-3	Catalytic
	Chamber and warehousing	Atmosphere (fill out B-58 through B-60)		
	Scrubber Room	Atmosphere (fill out B-58 through B-60)		

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from room area

ution control or handling procedure
o an APCD; used as cascading air; or

Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

[Click here to return to Introduction tab](#)

[Click here to visit Terms tab](#)

[Click here to visit Additional Info tab](#)

C. EtO Drum and Container Storage

Field #	Data	Instruction	
C-1	How many EtO drums and/or containers are typically stored at the facility at once?		47
C-2	Permitted amount of EtO storage	(pounds)	20,000.00
C-3	Is there a designated area for storing EtO drums	Select from the dropdown menu	Yes
C-4	Describe the designated area for EtO drum and/or		Exterior storage area
C-5	Describe the storage location for full and empty		Outside/enclosed space
C-6	Specify the maximum number of full EtO storage		Forty-nine 400 pound
C-7	Is the ambient air in the storage areas continually	Select from the dropdown menu	Yes
C-8	Describe the make/model and range of the		1. LEL Detector SMC
C-9	How often are new drums or containers delivered to		Twice per week.
C-10	What is the procedure for checking drums or		Leak tests are performed
C-11	Are drums or containers placed next to sterilizer	Select from the dropdown menu	Yes
C-12	Describe how EtO is charged to the sterilizer chamber		Each chamber has a

D. Ethylene Glycol (EG) Tanks

[illegible]

D-11			D-12	
APCD 1 for EG tank			APCD 2 for EG tank (if any)	
APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column <u>If you select "Other (double click to specify)", be sure to type your entries between the parentheses "{}"</u>	Enter the <u>average</u> air flow routed from the tank to this APCD (actual cubic feet per minute, acfm)	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column <u>If you select "Other (double click to specify)", be sure to type your entries between the parentheses "{}"</u>
CD-2	Wet scrubber	2000.00		

[illegible]

[illegible]

[illegible]

30
ordinates (d EG tank only)
Enter the longitude of stack. Specify to the <u>6th</u> decimal point

Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

[Click here to return to Introduction tab](#)
[Click here to visit Terms tab](#)
[Click here to visit Additional Info tab](#)

E. Sterilization Chambers

Table 1. Summary for Sterilizer Chambers

Field #	Data	Response
E-0	Enter the total number of sterilizer chambers at your facility	13

Table 2. Sterilizer Chamber Operation and Monitoring Characteristics

Field #	E-1	E-2	E-3	E-4	E-5	E-6
Data	Sterilizer unit ID	Associated EIS release point ID	Is this an R&D chamber (under the definition of research and laboratory facility)?	Does aeration of the sterilized product occur in the same sterilizer chamber?	Is this a single-item chamber?	Volume of sterilizer chamber
Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each sterilizer	Enter the EIS release point ID associated with the sterilizer unit, if any	Select from the dropdown menu in this column	Select from the dropdown menu in this column (If you select "Yes" for any sterilizer, fill out Table 3 in Aeration tab)	Select from the dropdown menu in this column	(cubic feet)
Response	Chamber 1		No	No	No	1353.00
	Chamber 2		No	No	No	1353.00
	Chamber 3		No	No	No	1353.00
	Chamber 4		No	No	No	1353.00
	Chamber 5		No	No	No	1353.00
	Chamber 6		No	No	No	1353.00
	Chamber 7		No	No	No	1353.00
	Chamber 8		No	No	No	5310.00
	Chamber 9		No	No	No	5310.00
	Chamber 10		No	No	No	5138.00
	Chamber 11		No	No	No	2704.00
	Chamber 12		No	No	No	3916.00
	Chamber 13		No	No	No	5138.00
	Chamber 14	(installation in process)				

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Table 3. Control Characteristics for Sterilizer Chambers

Field #	E-1	E-51	E-52		
Data	Sterilizer unit ID	Is the sterilizer chamber vent (SCV) routed to any control device?	APCD 1 for sterilizer chamber vent (SCV)		
Instruction	This column will be auto-populated based on your entries in the previous fields	Select from the dropdown menu in this column	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the <u>average</u> air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)
Response	Chamber 1	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 2	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 3	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 4	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 5	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 6	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 7	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 8	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 9	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 10	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	

E-53			E-54	
APCD 2 for sterilizer chamber vent (SCV) (if any)			APCD 3 for sterilizer chamber vent (SCV) (if a	
APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the <u>average</u> air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"

	E-55	E-56	E-57	E-58	E-59	E-60
ny)	Material of duct work for sterilizer chamber vent (SCV)	Total length of duct work for sterilizer chamber vent (SCV)	Average thickness of duct work for sterilizer chamber vent (SCV)	Is the cross section of duct work for sterilizer chamber vent (SCV) circular or rectangular?	Diameter of duct work (For circular duct work only)	Cross-sectional height of duct work (For rectangular duct work only)
Enter the <u>average</u> air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)	Specify the material of duct work	Enter the <u>total</u> length of duct work (feet)	Enter the <u>average</u> thickness of duct work (inches)	Select from the dropdown menu in this column	Enter the <u>average</u> diameter of duct work (feet)	Enter the <u>average</u> cross-sectional height of duct work (feet)
	Stainless Steel Pipe and Black Pipe	90.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		
	Stainless Steel Pipe and Black Pipe	90.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		
	Stainless Steel Pipe and Black Pipe	90.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		
	Stainless Steel Pipe and Black Pipe	90.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		
	Stainless Steel Pipe and Black Pipe	90.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		
	Stainless Steel Pipe and Black Pipe	90.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		
	Stainless Steel Pipe and Black Pipe	90.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		
	Stainless Steel Pipe and Black Pipe	60.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		
	Stainless Steel Pipe and Black Pipe	65.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		
	Stainless Steel Pipe and Black Pipe	75.00	0.25	Circular (fill out E-59 & E-63 as appropriate)		

E-61	E-62	E-63		E-64		E-65
Cross-sectional width of duct work (For rectangular duct work only)	Are the dimensions of duct work constant throughout?	Diameter of duct work (For circular duct work only)		Cross-sectional height of duct work (For rectangular duct work only)		Cross-sectional width of duct work (For rectangular duct work only)
Enter the <u>average</u> cross-sectional width of duct work (feet)	Select from the dropdown menu in this column	Enter the <u>maximum</u> diameter of duct work (feet)	Enter the <u>minimum</u> diameter of duct work (feet)	Enter the <u>maximum</u> cross-sectional height of duct work (feet)	Enter the <u>minimum</u> cross-sectional height of duct work (feet)	Enter the <u>maximum</u> cross-sectional width of duct work (feet)
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.30			
	No (fill out respective fields)	1.00	0.30			

E-70	E-71					E-72
Stack ID to which the <u>uncontrolled</u> sterilizer chamber vent (SCV) vents (for <u>uncontrolled SCV</u> only)	Stack parameter (for <u>uncontrolled SCV</u> only)					Stack coordinate (for <u>uncontrolled SCV</u> only)
Enter from permit description, if available. Otherwise, use a unique identifier for each stack	Enter the stack height (feet)	Enter the stack diameter (feet)	Enter the temperature at stack outlet (Fahrenheit)	Enter the exhaust velocity at stack outlet (feet/second)	Enter the volumetric flow rate at stack outlet (cubic feet/second)	Enter the latitude of stack. Specify to the 6th decimal point
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						

72	E-73	E-74		E-75	E-76
ordinates (led SCV only)	Is there a chamber exhaust vent (CEV)?	Is there a target EtO concentration that is reached before activation of the CEV?		Is an interlock system present that prevents activation of the CEV and opening of the sterilizer door until a set EtO concentration is reached?	Year in which the interlock system was installed
Enter the longitude of stack. Specify to the 6th decimal point	Select from the dropdown menu in this column	Select from the dropdown menu in this column	Enter the value if you select "Yes" on the left (ppm)	Select from the dropdown menu in this column	Enter the calendar year
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007

E-77	E-78		E-79		E-80
Expected lifetime of the interlock system	Capital cost of the interlock system		Annual cost of the interlock system		Standards or work practices for the interlock system
Enter the expected lifetime of the interlock system (years)	Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar amount in this column	Specify the dollar year in this column	Provide a brief description of any standards or work practices for the interlock system that prevents activation of the interlock system if the EO concentration is reached
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.
					The door interlock system will not allow the door to open during a cycle if the EO concentration is above 55 Chapter 14. Work practices are established to ensure that the EO concentration is not reached.

E-80	E-81	E-82		
allowed for the interlock system	Is the chamber exhaust vent (CEV) routed to any control device?	APCD 1 for chamber exhaust vent (CEV)		
Standards or work practices followed for operation of the CEV until a set concentration	Select from the dropdown menu in this column	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the <u>average</u> air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)
Allow chamber doors (and CEV) to open if LEL is >25% LEL in accordance with NFPA established to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer	
Allow chamber doors (and CEV) to open if LEL is >25% LEL in accordance with NFPA established to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer	
Allow chamber doors (and CEV) to open if LEL is >25% LEL in accordance with NFPA established to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer	
Allow chamber doors (and CEV) to open if LEL is >25% LEL in accordance with NFPA established to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer	
Allow chamber doors (and CEV) to open if LEL is >25% LEL in accordance with NFPA established to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer	
Allow chamber doors (and CEV) to open if LEL is >25% LEL in accordance with NFPA established to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer	
Allow chamber doors (and CEV) to open if LEL is >25% LEL in accordance with NFPA established to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer	
Allow chamber doors (and CEV) to open if LEL is >25% LEL in accordance with NFPA established to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer	
Allow chamber doors (and CEV) to open if LEL is >25% LEL in accordance with NFPA established to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer	

E-83			E-84	
APCD 2 for chamber exhaust vent (CEV) (if any)			APCD 3 for chamber exhaust vent (CEV) (i	
APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the <u>average</u> air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"

	E-85	E-86	E-87	E-88	E-89	E-90
f any)	Material of duct work for chamber exhaust vent (CEV)	Total length of duct work for chamber exhaust vent (CEV)	Average thickness of duct work for chamber exhaust vent (CEV)	Is the cross section of duct work for chamber exhaust vent (CEV) circular or rectangular?	Diameter of duct work (For circular duct work only)	Cross-sectional height of duct work (For rectangular duct work only)
Enter the <u>average</u> air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)	Specify the material of duct work	Enter the total length of duct work (feet)	Enter the <u>average</u> thickness of duct work (inches)	Select from the dropdown menu in this column	Enter the <u>average</u> diameter of duct work (feet)	Enter the <u>average</u> cross-sectional height of duct work (feet)
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E-89 & E-93 as appropriate)		

E-91	E-92	E-93		E-94		E-95
Cross-sectional width of duct work (For rectangular duct work only)	Are the dimensions of duct work constant throughout?	Diameter of duct work (For circular duct work only)		Cross-sectional height of duct work (For rectangular duct work only)		Cross-sectional width of duct work (For rectangular duct work only)
Enter the <u>average</u> cross-sectional width of duct work (feet)	Select from the dropdown menu in this column	Enter the <u>maximum</u> diameter of duct work (feet)	Enter the <u>minimum</u> diameter of duct work (feet)	Enter the <u>maximum</u> cross-sectional height of duct work (feet)	Enter the <u>minimum</u> cross-sectional height of duct work (feet)	Enter the <u>maximum</u> cross-sectional width of duct work (feet)
	No (fill out respective fields)	2.00	1.30			
	No (fill out respective fields)	2.00	1.30			
	No (fill out respective fields)	2.00	1.30			
	No (fill out respective fields)	2.00	1.30			
	No (fill out respective fields)	2.00	1.30			
	No (fill out respective fields)	2.00	1.30			
	No (fill out respective fields)	2.00	1.30			
	No (fill out respective fields)	2.00	1.40			
	No (fill out respective fields)	2.00	1.40			
	No (fill out respective fields)	2.00	1.40			

95	E-96	E-97	E-98		E-99	
idth of duct work duct work only)	Year in which duct work was installed	Expected lifetime of duct work	Capital cost of duct work for chamber exhaust vent (CEV) (estimated or actual)		Installation cost of duct work for chamber exhaust vent (CEV) (estimated or actual)	
Enter the minimum cross- sectional width of duct work (feet)	Enter the calendar year	Enter the expected lifetime of duct work (years)	Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar amount in this column	Specify the dollar year in this column

E-100	E-101	E-102	E-103	E-104		E-105
Is any APCD installed solely for the purpose of controlling emissions from the CEV?	If not, was a damper system installed for the purpose of adjusting the flow rate to the control device upon CEV activation?	Year in which the damper system was installed	Expected lifetime of the damper system	Capital cost of the damper system		Installation cost of the damper system
Select from the dropdown menu in this column	Select from the dropdown menu in this column	Enter the calendar year	Enter the expected lifetime of the damper system (years)	Enter the dollar amount in this column	Specify the dollar amount in this column	Enter the dollar amount in this column
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					

E-109				E-110	
Stack parameter (for uncontrolled CEV only)				Stack coordinates (for uncontrolled CEV only)	
Enter the stack diameter (feet)	Enter the temperature at stack outlet (Fahrenheit)	Enter the exhaust velocity at stack outlet (feet/second)	Enter the volumetric flow rate at stack outlet (cubic feet/second)	Enter the latitude of stack. Specify to the 6th decimal point	Enter the longitude of stack. Specify to the 6th decimal point

	Chamber 11	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 12	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 13	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 14				

Table 4. Control Characteristics for Sterilizer Chambers (continued)

Field #	E-1	E-111	E-112	E-113	
Data	Sterilizer unit ID	Is there a cover hood or vent over the sterilizer chamber door (e.g., hooded vent above the sterilizer chamber door)?	Is the cover hood or vent routed to any control device?	APCD 1 for cover hood or vent	
Instruction	This column will be auto-populated based on your entries in the previous fields	Select from the dropdown menu in this column	Select from the dropdown menu in this column	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column <u>If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"</u>
Response	Chamber 1	Yes			
	Chamber 2	Yes			
	Chamber 3	Yes			

[illegible]

E-128		E-129		E-130		
Capital cost of duct work for cover hood or vent (estimated or actual)		Installation cost of duct work for cover hood or vent (estimated or actual)		Stack ID to which the cover hood or vent vents (for uncontrolled cover hood or vent only)	(for uncontrolled cover hood or vent only)	
Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar amount in this column	Specify the dollar year in this column	Enter from permit description, if available. Otherwise, use a unique identifier for each stack	Enter the stack height (feet)	Enter the stack diameter (feet)
					8.00	1.00
					8.00	1.00
					8.00	1.00

[illegible]

E-131			E-132		E-133
Stack parameter (<u>controlled cover hood or vent only</u>)			Stack coordinates (<u>for uncontrolled cover hood or vent only</u>)		Is any SCV or CEV of the sterilizer unit routed to a vacuum pump?
Enter the <u>temperature</u> at stack outlet (Fahrenheit)	Enter the <u>exhaust velocity</u> at stack outlet (feet/second)	Enter the <u>volumetric flow rate</u> at stack outlet (cubic feet/second)	Enter the latitude of stack. Specify to the <u>6th</u> decimal point	Enter the longitude of stack. Specify to the <u>6th</u> decimal point	Select from the dropdown menu in this column <u>If your answer is</u> <u>"Yes" in any row</u> <u>below, fill out</u> <u>Table 5</u>
					Yes (fill out E-134 through E-143)
					Yes (fill out E-134 through E-143)
					Yes (fill out E-134 through E-143)

	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007

	Chamber 4	Yes			
	Chamber 5	Yes			
	Chamber 6	Yes			
	Chamber 7	Yes			
	Chamber 8	No (skip to E-133)			
	Chamber 9	No (skip to E-133)			
	Chamber 10	No (skip to E-133)			
	Chamber 11	No (skip to E-133)			
	Chamber 12	No (skip to E-133)			
	Chamber 13	No (skip to E-133)			
	Chamber 14				

Table 5. Vacuum Pumps

Field #	E-134	E-135	
Data	Unit ID of vacuum pump	Associated sterilizer unit ID(s) and vent(s)	

[illegible]

E-136	E-137	E-138	E-139
Basic information of vacuum pump	Seal type of vacuum pump	Capacity of vacuum pump	Year in which the vacuum pump was installed

Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each pump	Enter ID(s) of the sterilizer unit(s) associated with this vacuum pump. If more than one sterilizer unit is serviced by the vacuum pump, list all the sterilizer unit IDs separated by commas. Also specify which vents on the sterilizer unit are routed to the vacuum pump. For example: "SC-1 (SCV, CEV)"	Specify <u>make</u> of pump
Response	S-1	Chamber 1 (SCV)	Decker
	S-2	Chamber 2 (SCV)	Decker
	S-3	Chamber 3 (SCV)	Decker
	S-4	Chamber 4 (SCV)	Decker
	S-5	Chamber 5 (SCV)	Decker
	S-6	Chamber 6 (SCV)	Decker
	S-7	Chamber 7 (SCV)	Decker
	S-8	Chamber 8 (SCV)	Decker
	S-9	Chamber 9 (SCV)	Decker
	S-10	Chamber 10 (SCV)	Decker
	S-11	Chamber 11 (SCV)	Decker
	S-12	Chamber 12 (SCV)	Sterling
	S-13	Chamber 13 (SCV)	Decker
		Chamber 14 installation in process	

[illegible]

Ethylene Oxide (EtO) Commercial Sterilization
CAA Section 114 Survey

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F. Aeration

Table 1. Aeration that Occurs in Separate Unit (Aeration Room & Aeration Cell/Chamber)

Field #	F-1	F-2	F-3	F-4	F-5
Data	Aeration unit ID	Associated EIS release point ID	Type of aeration unit	Does the aeration unit use accelerated aeration?	Characteristics of accelerated aeration
Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each aeration unit	Enter the EIS release point ID associated with the aeration unit, if any	Select from the dropdown menu in this column	Select from the dropdown menu in this column	Select from the dropdown menu in this column
Response	AR08	N/A	Aeration room	No (skip to F-6)	N/A
	AR09	N/A	Aeration room	No (skip to F-6)	N/A

Table 2. Aeration that Occurs within Sterilizer Chamber
If no data is auto-populated in Field E-1 of this table, skip to Table 3

Field #	E-1	F-43	F-44
Data	Sterilizer unit ID	Temperature	Relative humidity

[illegible]

F-45	F-46
Pressure	Length of time that products are being held in aeration room before being transferred

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Instruction	This column will be auto-populated based on your entries in the previous fields	Enter the <u>average</u> temperature of aeration room when in operation (Fahrenheit)	Enter the <u>maximum</u> temperature of aeration room when in operation (Fahrenheit)	Enter the <u>minimum</u> temperature of aeration room when in operation (Fahrenheit)	Is a specific humidity needed for aeration? Select from the dropdown menu in this column	If yes, enter the specific humidity that is needed for aeration (percent)
Response						

Table 3. Movement of Sterilized Products through the Facility
Describe how sterilized product is moved from one area of the facility to another. For each product move through the facility provide, provide (1) product name, (2) date product is moved, (3) distance product is moved, and (4) note any areas where there is a hood to collect the EO

Field #	Data	Instruction	
F-47	From sterilizer chamber to aeration	Provide details on where the sterilized product is placed in	Product is taken out
F-48	From aeration room/chamber to warehouse area	Provide details on where the sterilized and aerated product is placed after being removed from aeration chamber, length of time the sterilized and aerated product sits after being removed from aeration room, and distance the sterilized and aerated product is moved to warehouse area	Product is removed
F-49	At warehouse area	Provide details on length of time sterilized and aerated	Product will remain

Ethylene Oxide (EtO) Commercial Sterilization
CAA Section 114 Survey

[Click here to return to Introduction tab](#) [Click here to visit Terms tab](#) [Click here to visit Additional Info tab](#)

G. Summary of Air Pollution Control Devices

Table 1. APCD Characteristics
If an APCD exhausts to more than one stack, provide the information requested in Fields G-5 through G-7 for each additional stack in Addition

Field #	G-1	G-2	G-3	G-4	
Data	APCD ID	Type of APCD	Associated EIS release point ID	Description	
Instruction	This column will be auto-populated based on your entries in the previous fields	This column will be auto-populated based on your entries in the previous fields	Enter the EIS release point ID associated with this APCD, if any	Specify the manufacturer of APCD	Specify the model of APCD
Response	CD-2	Wet scrubber		Ceilcote	SPT-54-240
	CD-3	Catalytic oxidizer		Donaldson	EtO Abator

1. *What is the purpose of this study?*
 2. *What are the research questions or hypotheses?*
 3. *What methods were used to collect data?*
 4. *What were the results of the study?*
 5. *What conclusions were drawn from the results?*

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

	G-18
the last 5 years (if any)	How does the APCD handle variability in flow rate and c parameters?
Provide a copy of each performance test performed in the last 5 years <u>in its entirety</u> for each APCD	Provide a brief description about how the APCD handles varia and other relevant parameters
Attach all requested documents in the "Attachments" tab	Scrubbers are able to handle variability in process emission flo
	Catalytic oxidizers are equipped with air flow monitoring devi

[illegible]

Table 2. Emissions and CEMS

[illegible]

[illegible][illegible]

[illegible][illegible]

[illegible]

G-28			
or non-regulatory emission test performed in the last 5 years (if any)			
any engineering emission test APCD in the last <u>y</u>). If there are rate by commas	Enter the <u>average</u> dollar <u>amount</u> for each engineering emission test in this column	Specify the dollar year in this column	Provide a copy of each engineering or non-regulatory emission test performed in the last 5 years <u>in its</u> <u>entirety</u> for each APCD

Attach all requested documents in the

[illegible]

			"Attachments" tab

Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

[Click here to return to Introduction tab](#)
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[Click here to visit Additional Info tab](#)

H. Details of Air Pollution Control Devices

Table 1. Wet Scrubber & Glygen Absorber Unit

Field #	G-1	H-1
Data	APCD ID	Design and operation specifications
Instruction	This column will be auto-populated based on your entries in the previous fields	Provide a brief description of the design and key operation specifications of the wet scrubber/glygen absorber unit
Response	CD-2	Wet scrubber is designed to treat high concentrations of EO from sterilizer vacuum pump emissions using an acid-water solution in a packed tower

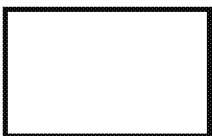
Table 2. Dry-bed Scrubber

Field #	G-1	H-12
Data	APCD ID	Design and operation specifications
Instruction	This column will be auto-populated based on your entries in the previous fields	Provide a brief description of the design and key operation specifications of the dry-bed scrubber
Response		

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right → If yes, be sure to shade the fields containing CBI in red, and follow the instructions specified in the Instructions Document

[illegible]

H-13	H-14	H-15	H-16	H-17
Type of media/sorbent used	Volume of media/sorbent	Year in which current media/sorbent was installed	Expected lifetime of media/sorbent	Can the media/sorbent be regenerated?
Specify the type of media/sorbent used for the dry-bed scrubber	Enter the volume of media/sorbent within the dry-bed scrubber (cubic feet)	Enter the calendar year in which the current media/sorbent was installed	Enter the expected lifetime of the media/sorbent used (years)	Select from the dropdown menu in this column

[illegible]

H-18 Media/sorbent regeneration				H-19 Average cost of media/sorbent regeneration
How frequently is the media/sorbent regenerated, if applicable?	What <u>method</u> is used to regenerate the media/sorbent, if applicable?	How many times is the media/sorbent regenerated prior to disposal, if applicable?	To what <u>removal efficiency</u> is the media/sorbent restored after regeneration? (percent)	Enter the dollar <u>amount</u> in this column

[illegible][illegible]

[illegible]

	H-23	H-24
d or tested in any	Is the media/sorbent change out done based on manufacturer suggestion?	Process/APCD monitoring plan for dry-bed scrubber
f description in this	Select from the dropdown menu in this column. <u>If you select "No", be sure to enter a brief explanation between the parentheses "("</u>	Provide a brief description of the process/APCD monitoring plan for the dry-bed scrubber. Specify if measurements of the gas stream or sorbent are taken as part of these plans

	H-9				
	Parameter 3 monitored for wet scrubber/glygen absorber unit (if any)				
Corrective actions taken for limit(s) for	Name of Parameter 3	Set value of Parameter 3	Unit of Parameter 3	Monitoring frequency of Parameter 3	Explain any corrective readings outside the Parameter 3
odor	gas flow rate	2500.00	acfm	daily	

	H-25				
	Parameter 1 monitored for dry-bed scrubber				
Corrective actions taken for limit(s) for	Name of Parameter 1	Set value of Parameter 1	Unit of Parameter 1	Monitoring frequency of Parameter 1	Explain any corrective readings outside the Parameter 1
odor					

[illegible]

H-26					
Parameter 2 monitored for dry-bed scrubber (if any)					
Corrective actions taken for limit(s) for	Name of Parameter 2	Set value of Parameter 2	Unit of Parameter 2	Monitoring frequency of Parameter 2	Explain any corrective actions taken for readings outside the limit(s) for Parameter 2

H-11
Monitoring records for wet scrubber/glygen absorber unit from the last calendar year
Provide all monitoring records from the last calendar year
<p>Attach all requested documents in the "Attachments" tab</p>

H-27					Parameter 4	
Parameter 3 monitored for dry-bed scrubber (if any)						
Name of Parameter 3	Set value of Parameter 3	Unit of Parameter 3	Monitoring frequency of Parameter 3	Explain any corrective actions taken for readings outside the limit(s) for Parameter 3	Name of Parameter 4	Set value of Parameter 4

H-28			H-29
Parameter 4 monitored for dry-bed scrubber (if any)			Monitoring records for dry-bed scrubber from the last calendar year
Unit of Parameter 4	Monitoring frequency of Parameter 4	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 4	Provide all monitoring records from the last calendar year

Table 3. Catalytic Oxidizer & Balancer/Abator

Field #	G-1	H-30
Data	APCD ID	Design and operation specifications
Instruction	This column will be auto-populated based on your entries in the previous fields	Provide a brief description of the design and key operation specifications of the catalytic oxidizer or balancer/abator
Response	CD-3	Low concentration EO mixed with air is pulled into the system by a fan and

Table 4. Thermal Oxidizer

Field #	G-1	H-50
Data	APCD ID	Design and operation specifications
Instruction	This column will be auto-populated based on your entries in the previous fields	Provide a brief description of the design and key operation specifications of the thermal oxidizer
Response		

H-31	H-32	H-33	H-34	H-35
Type of catalyst	Volume of catalyst	Year in which current catalyst was installed	Expected lifetime of catalyst	Operating temperature of catalyst bed
Specify the type of catalyst used in catalytic oxidizer	(cubic feet)	Enter the calendar year in which the current catalyst was installed	Enter the expected lifetime of the catalyst used (years)	Enter the operating temperature of catalyst bed (Fahrenheit)
CARULITE® 500, 8 X 14 mesh Catalyst		2015		300.00

H-51	H-52	H-53		H-54	
Average operating temperature	Operating temperature records for thermal oxidizer from the last calendar year	Annual natural gas usage to maintain the operating temperature		Annual cost of natural gas used to heat the thermal oxidizer	
Enter the average operating temperature of thermal oxidizer (Fahrenheit)	Provide the operating temperature records for thermal oxidizer from the last calendar year	Enter the <u>amount</u> in this column	Specify the <u>unit</u> in this column	Enter the dollar <u>amount</u> in this column	Specify the dollar <u>year</u> in this column

[illegible][illegible]

H-55	H		
Process/APCD monitoring plan for thermal oxidizer	Parameter 1 monito		
Provide a brief description of the process/APCD monitoring plan for the thermal oxidizer. Specify if measurements of the gas stream are part of these plans	Name of Parameter 1	Set value of Parameter 1	Unit of Parameter 1

[illegible][illegible]

H-56		H-57			
Parameter 1 monitored for thermal oxidizer		Parameter 2 monitored for thermal oxidizer			
Monitoring frequency of Parameter 1	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 1	Name of Parameter 2	Set value of Parameter 2	Unit of Parameter 2	Monitoring frequency of Parameter 2

[illegible]

	H-58				
(if any)	Parameter 3 monitored for thermal oxidizer (if any)				
Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 2	<u>Name of</u> Parameter 3	<u>Set value of</u> Parameter 3	<u>Unit of Parameter</u> 3	<u>Monitoring</u> <u>frequency of</u> Parameter 3	Explain any <u>corrective</u> readings outside the Parameter 3

[illegible][illegible]

	H-59				
	Parameter 4 monitored for thermal oxidizer (if any)				
Corrective actions taken for exceeding limit(s) for	Name of Parameter 4	Set value of Parameter 4	Unit of Parameter 4	Monitoring frequency of Parameter 4	Explain any corrective readings outside the Parameter 4

[illegible][illegible]

	H-60
	Monitoring records for thermal oxidizer from the last calendar year
What actions taken for limit(s) for	Provide all monitoring records from the last calendar year

			Attach all requested documents in the "Attachments" tab

H-48				H-49
Parameter 4 monitored for catalytic oxidizer & balancer/abator (if any)				Monitoring records for catalytic oxidizer & balancer/abator from the last calendar year
Set value of Parameter 4	Unit of Parameter 4	Monitoring frequency of Parameter 4	Explain any corrective actions taken for readings outside the limit(s) for Parameter 4	Provide all monitoring records from the last calendar year
				Attach all requested documents in the "Attachments" tab

[illegible]

Table 5. Other APCDs

[illegible]

	Attach all requested documents in the "Attachments" tab

Ethylene Oxide (EtO) Commercial Sterilization

CAA Section 114 Survey

[Click here to return to Introduction tab](#)
[Click here to visit Terms tab](#)
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I. EtO Monitoring

Table 1. Personal Monitoring (Badges) for EtO

List all personal monitoring events during the last 5 years

Field #	I-1	I-2	I-3
Data	Unique ID	Date	Description of Work Conditions
Instruction	Enter from test report or documentation, if available. Otherwise, use a unique identifier for each personal monitoring event	Enter date of the personal monitoring event (mm/dd/yyyy)	Provide a brief description of the work conditions of facility during each personal monitoring event
Response	4Q2019	4Q2019	Continuous operation for 8-hour badge
	3Q2019	3Q2019	Continuous operation for 8-hour badge
	2Q2019	2Q2019	Continuous operation for 8-hour badge
	1Q2019	1Q2019	Continuous operation for 8-hour badge
	4Q2018	4Q2018	Continuous operation for 8-hour badge
	3Q2018	3Q2018	Continuous operation for 8-hour badge
	2Q2018	2Q2018	Continuous operation for 8-hour badge
	1Q2018	1Q2018	Continuous operation for 8-hour badge
	4Q2017	4Q2017	Continuous operation for 8-hour badge
	3Q2017	3Q2017	Continuous operation for 8-hour badge
	2Q2017	2Q2017	Continuous operation for 8-hour badge
	1Q2017	1Q2017	Continuous operation for 8-hour badge
	4Q2016	4Q2016	Continuous operation for 8-hour badge
	3Q2016	3Q2016	Continuous operation for 8-hour badge
	2Q2016	2Q2016	Continuous operation for 8-hour badge
	1Q2016	1Q2016	Continuous operation for 8-hour badge
	4Q2015	4Q2015	Continuous operation for 8-hour badge
	3Q2015	3Q2015	Continuous operation for 8-hour badge
	2Q2015	2Q2015	Continuous operation for 8-hour badge
	1Q2015	1Q2015	Continuous operation for 8-hour badge

Table 2. Room Area Monitoring for EtO

Field #	B-1	I-9	
Data	Room area ID for all rooms and areas where EtO is used or emitted	Description of room area monitoring	EtO concentration
Instruction	This column will be auto-populated based on your entries in the previous fields	Provide a brief description of the monitoring procedure for each room	Enter the <u>average</u> EtO concentration (ppmv)

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right →
If yes, be sure to *shade the fields containing CBI in red*, and follow the instructions specified in the Instructions Document

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I-4			I-5	I-6
Monitoring result			Monitoring result flag	Averaging periods
Enter the average concentration monitored (ppm)	Enter the maximum concentration monitored (ppm)	Enter the minimum concentration monitored (ppm)	Specify any action level, error, or flag of monitoring result	Specify any averaging periods for each personal monitoring event
	20.00	0.02	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	40.00	0.05	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	24.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	24.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	32.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	26.00	0.10	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	35.00	0.10	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	22.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	14.00	0.07	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	16.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	9.30	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	16.00	0.19	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	19.00	0.23	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	16.00	0.09	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	14.00	0.04	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	12.00	0.09	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	16.00	0.06	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	11.00	0.11	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	18.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	13.00	0.06	> 1ppm for 8-hr TWA	Time weighted average (TWA)

I-10		I-11	I-12	I-13
of room area where EtO is used or emitted		How many measurement points are there within the room area?	What is the frequency of monitoring at each point within the room area?	Instrument
Enter the maximum EtO concentration (ppmv)	Enter the minimum EtO concentration (ppmv)	Enter the amount of measurement points within the room area	Specify the frequency of monitoring at each point within the room area	Specify the instrument used to monitor the room area

I-7			I-8	
Instrument 1			Instrument 2 (if any)	
Specify the instrument used during each personal monitoring event	Enter the <u>value</u> of detection level of instrument	Specify the <u>unit</u> of detection level of instrument	Specify the instrument used during each personal monitoring event	Enter the <u>value</u> of detection level of instrument
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		

		I-14			I-15
ent 1		Instrument 2 (if any)			Action levels and SOPs for room area monitoring
Enter the <u>value</u> of detection level of instrument	Specify the <u>unit</u> of detection level of instrument	Specify the instrument used to monitor the room area	Enter the <u>value</u> of detection level of instrument	Specify the <u>unit</u> of detection level of instrument	Provide documents specifying action levels and SOPs for room area monitoring

Response	Chamber Module 1		
	Chamber Module 2		
	Chamber Module 3		
	Chamber Module 4		
	AR08		
	AR09		
	Chamber and warehousing		
	Scrubber Room		

Table 3. Other Monitoring for EtO

Field #	Data	
I-16	Describe any other types of EtO monitoring that have been	The facility monitors EtO emissions based on performance tes
I-17	Describe any dispersion modeling efforts conducted by the facility	The facility monitors ethylene oxide emissions based on perf The facility does not have a program of performing air dispers outside a facility, since a ubiquitous background concentratio means of accounting for background concentrations. In some
I-18	Provide the records for any type of monitoring or modeling	Please see responses to I-16 and I-17. Attach all

[illegible]

Response
<p>tests and monitoring plans approved for APCDs under the NESHAP. The facility also conducts performance tests and monitoring plans approved for air pollution control devices under the NESHAP. Dispersion modeling, nor is such modeling likely to accurately estimate ambient air concentrations of ethylene oxide exists in the atmosphere, and air dispersion models typically do not have a <u>cases, air dispersion modeling is required for a permit application. If air dispersion modeling was requested documents in the "Attachments" tab</u></p>

					Attach all requested documents in the "Attachments" tab

Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

[Click here to return to Introduction tab](#)

[Click here to visit Terms tab](#)

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J. Wastewater

Field #	J-1	J-2		J-3	J-4	
Data	Daily average wastewater flow rate for EtO commercial sterilization activities at the facility	Annual EtO emissions from wastewater at facility for the last 5 years		Average EtO concentration in wastewater when it leaves the vacuum pump or liquid-gas separator	Average EtO concentration in wastewater when collected in a holding tank or basin	Wastewater disposal
Instruction	(gallons/day)	Enter calendar year in this column	Enter the value of annual EtO emissions in this column (pounds)	(ppmv)	(ppmv)	Briefly specify how EtO commercial sterilization is performed
Response	0.00					

K. Unique Cycles and EtO Reduction

Enter data for each individual category, respectively

If the facility does not plan to re-validate cycles in an effort to reduce EtO use, responses are not required for Fields K-2 through K-4 and K-7

Field #	K-1	K-2	K-3	K-4	
Data	How many unique cycles are run at this facility?	How many unique cycles have been re-validated thus far?	How many unique cycles does the facility still have left to re-validate	How long will it take to complete re-validation of these cycles?	
Instruction	Enter the amount of unique cycles	Enter the amount of unique cycles	Enter the amount of unique cycles	Enter the value in this column	Specify the unit in this column
Response for all the products in total					
Response for 510(k) products (Class I and Class II devices)					
Response for Pre-Market Approval (PMA) products (Class III devices)					

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right →
If yes, be sure to *shade the fields containing CBI in red*, and follow the instructions specified in the Instructions Document

J-5	J-6		J-7	J-8
Disposal or treatment for EtO commercial sterilization activities	Annual average cost of wastewater disposal or treatment for EtO commercial sterilization activities		Are there any other processes within the facility that generate EtO-laden wastewater?	Other processes generating EtO-laden wastewater within the facility
Wastewater is disposed of or treated for commercial sterilization activities	Enter the dollar amount in this column	Specify the dollar year in this column	Select from the dropdown menu in this column	List all other processes generating EtO-laden wastewater within the facility. Enter one process per line.

through K-13

K-5	K-6	K-7	K-8
Cost of validating unique cycles	What is the current average EtO dose among the products?	What is the target average EtO dose?	What is the anticipated change in number of cycles upon completion of validation?
Provide information on the cost to validate a sterilization cycle, including: (1) hours of time for R&D engineers, operators, technicians, etc. to complete the sterilization cycle runs, compile the reports and file with the FDA; (2) costs for laboratory analyses; and (3) information on the length of time from start to finish (weeks) required to complete validation for a sterilization cycle	(mg/L)	(mg/L)	(percent)

	J-9	J-10	J-11	
wastewater within	Daily average wastewater flow rate for each process other than EtO commercial sterilization	Wastewater disposal or treatment for each process other than EtO commercial sterilization	Annual cost of wastewater disposal or treatment for each process other than EtO commercial sterilization	
den wastewater each row	(gallons/day)	For each process, briefly specify how wastewater is disposed of or treated	Enter the dollar amount in this column	Specify the dollar year in this column

8	K-9	K-10	K-11
ted average percent of nitrogen washes the re-validations?	What is the anticipated average percent change in <u>number of air washes</u> upon completion of the re-validations?	What is the anticipated average percent change in <u>time spent on gas washing</u> upon completion of the re-validations?	What is the anticipated average percent change in <u>dwel period time</u> upon completion of the re-validations?
	(percent)	(percent)	(percent)

J-12
Annual average wastewater flow for <u>all operations</u> at the facility (includes both EtO commercial sterilization and other activities)
(gallons/year)

K-12	K-13	
What is the anticipated average percent change in <u>aeration time</u> upon completion of the re-validations?	What are the anticipated annual cost savings from reduced EtO use?	
(percent)	Enter the dollar <u>amount</u> in this column	Specify the dollar <u>year</u> in this column

L. Other Questions regarding EtO Commercial Sterilization

Field #	Data	
L-1	How is EtO handled during malfunction events of process equipment (vented,	Malfunction of process equipment will s
L-2	How is EtO handled during malfunction events of APCD (vented, held within	A malfunction of the wet scrubber will t
L-3	Provide documentation of any studies done on quantifying EtO residuals in	Attach all
L-4	Are there generators on site to keep facility running in the event of a power	Facility does not have generators to pro
L-5	Provide percent emission reduction, associated costs, and description of	
L-6	Is the facility operating at full capacity or can current capacity increase to	

Response
stop cycle and trigger a notification alarm. EtO is held within chamber.
trigger a hold on chamber vacuum pumps to prevent EtO from discharging to
requested documents in the "Attachments" tab
vide power in the event of an outage. The facility is designed and has

Ethylene Oxide (EtO) Commercial Sterilization
CAA Section 114 Survey

[Click here to return to Introduction](#) [Click here to visit Terms tab](#)

M. Additional Information

If you need extra space to provide any additional information within this survey, use this section below. For each entry, specify the tab n

Tab	Field #	
Facility Details	A-25	No SSM plans have been developed. SSM plans are not required to be developed by 40 C.F.R. § 63.360
Room Area	Table 2	No data available on NDOs.
EtO Monitoring	I-3 and I-4	Personal monitoring is conducted during all activities and tasks independent of respirator use.

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right →
If yes, be sure to *shade the fields containing CBI in red*, and follow the instructions specified in the Instructions Document

--

ame and field number to which your answer refers

Response
or any state in which Sterigenics operates.

Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

[Click here to return to Introduction tab](#)

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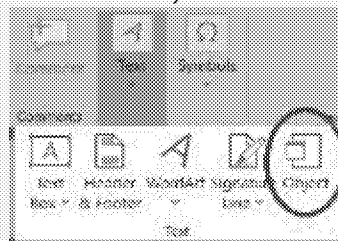
[Click here to visit Additional Info tab](#)

N. Attachments

Instructions: *Attach all documents and records requested throughout this survey on this page.
Corresponding field numbers and data descriptions are summarized in the table below.
Ensure that any IDs referenced are consistent with data reported in this survey*

Steps to attach files to this Excel spreadsheet

- (1) Click on the field to attach files;*
 - (2) Go to the Insert tab → Text, click Object;*
 - (3) In the Object dialog box, click the Create from File tab;*
 - (4) Click Browse, and select the file you want to insert;*
 - (5) Select the Display as Icon check box, then click OK.*
- Repeat the above steps to attach any additional files*



Field #	Data	Instruction	
A-21	Facility diagrams	Provide diagrams of your facility indicating all rooms,	
A-22	Process flow diagrams	Provide process flow diagrams of the EtO processes at your	
A-23	Most Recent Air Permit(s)	Provide the most recent air permit(s) approved for your	
A-24	Application Documents for the Most	Provide the application documents for the most recent air	
A-25	Startup, shutdown and malfunction (SSM) plan	Provide the startup, shutdown and malfunction (SSM) plan approved for your facility	No SSM plans have been developed. SSM plans are not required to be developed by 40 C.F.R. § 63.360 or any state in which Sterigenics operates.
A-42	Documentation for annual emissions	Provide calculations and supporting documentation for all	
G-17	Performance test performed in the last	Provide a copy of each performance test performed in the	
G-28	Engineering emission test performed in	Provide a copy of each engineering emission test performed	
H-11	Monitoring records for wet scrubber	Provide all monitoring records from the last calendar year	
H-29	Monitoring records for dry-bed	Provide all monitoring records from the last calendar year	
H-49	Monitoring records for catalytic oxidizer	Provide all monitoring records from the last calendar year	
H-52	Operating temperature records for	Provide the operating temperature records for thermal	
H-60	Monitoring records for thermal oxidizer	Provide all monitoring records from the last calendar year	
H-67	Monitoring records for APCD from the	Provide all monitoring records from the last calendar year	
I-15	Action levels and SOPs for room area	Provide documents specifying action levels and SOPs for	
I-18	Provide the records for any type of monitoring efforts you have mentioned in Fields I-16 and I-17		Please see responses to I-16 and I-17.
L-3	Provide documentation of any studies		
N-1	Provide any process and		



ATTENTION - If any of the documents and records you choose to submit contains confidential business information (CBI), be sure to shade the corresponding fields in red and follow the instructions specified in the Instructions Document on how to handle and transport CBI

[illegible]

Ethylene Oxide (EtO) Commercial Sterilization
CAA Section 114 Survey

[Click here to return to Introduction tab](#)

Certification by Reporter

Complete the fields below for the person who completes the survey and who is available for follow-up questions, if any, on the information provided in this survey

Name	
Title	
Organization	
Email	
Phone	
Fax	
General comments	

☐

I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete.

Signature

Date

Certification by

Please complete the
this survey (may be i

Name	
Title	
Organization	
Email	
Phone	
Fax	
General comments	

☐

Certification by Professional Engineer

Complete the fields below for the professional engineer (PE) who certifies the information provided in this survey

Name	
Title	
Organization	
Email	
Phone	
Fax	
General comments	

☐

I certify that the statements and information are to the best of my knowledge

Certification by

Complete the fields i
provided in this surv

Name	
Title	
Organization	
Email	
Phone	
Fax	
General comments	

☐

Facility Personnel

fields below for the facility personnel who certifies the information provided in the owner or legal operator of the facility)

I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete.

Signature

Date

Certified Industrial Hygienist

below for the certified industrial hygienist (CIH) who certifies the information
ey

I certify that the statements and information are to the best of my knowledge

and belief true, accurate, and complete.

Signature

Date

and belief true, accurate, and complete.

Signature

Date

A-5 & A-16	A-9	B-2
AK	≤ 100	EtO storage
AZ	101-250	Preconditioning
AR	251-500	EtO dispensing room
CA	> 500	Sterilizer room area
CO		Aeration room area
CT	A-10	Aeration room
DE	Operating	Shipping or warehouse
DC	Seasonal/partial year	APCD room
FL	Temporarily closed	Other (double click to specify)
GA	Permanently closed	
HI		B-22
ID	A-12	Yes
IL	Yes	No (skip to B-38)
IN	No (skip to A-13)	
IA		B-23
KS	A-19	Valve - gas
KY	Yes	Valve - liquid
LA	No	Connector
ME		Flange - gas
MD	A-20	Flange - liquid
MA	≤ 250	Pump seal - liquid
MI	251-500	Pressure relief device
MN	501-750	Meter - gas
MS	751-1000	Meter - liquid
MO	1001-1250	Line
MT	> 1250	Other (double click to specify)
NE		
NV		B-36
NH		Yes
NJ		No (skip to B-37)
NM		
NY		B-37
NC		Yes
ND		No (skip to B-38)
OH		
OK		B-38
OR		APCD (fill out B-39 through B-56)
PA		Cascading (fill out B-57)
RI		Atmosphere (fill out B-58 through B-60)
SC		Other handling (fill out B-61)
SD		
TN		B-45
TX		Circular (fill out B-46 & B-50 as appropriate)
UT		Rectangular (fill out B-47/48 & B-51/52 as appropriate)
VT		
VA		B-49
WA		Yes (skip to B-53)
WV		No (fill out respective fields)
WI		
WY		
AS		
GU		
MH		
FM		
MP		
PW		
PR		
VI		

NDO Type	C-3	CBI
Door	Yes	Yes
Window	No (skip to C-5)	No
Other (double click to specify)		
NDO Orientation	C-7	
Vertical	Yes	
Horizontal	No (skip to C-9)	
Combined		
Air forced out of NDO	C-11	
Yes	Yes	
No (skip the next column)	No	
	D-10	
	Yes (fill out D-11 through D-27)	
	No (fill out D-28 through D-30)	
	D-16	
	Circular (fill out D-17 & D-21 as appropriate)	
	Rectangular (fill out D-18/19 & D-22/23 as appropriate)	
	D-20	
	Yes (skip to D-24)	
	No (fill out respective fields)	

E-3/E-4/E-5/E-11

Yes

No

APCD

Wet scrubber

Glygen absorber unit

Dry-bed scrubber

E-21

Yes

No (skip to E-29)

Catalytic oxidizer

Thermal oxidizer

Balancer/abator

Other (double click to specify)

E-29

Yes

No (skip to E-37)

E-38

ppm

% LEL

E-40

Yes

No (skip to E-51)

E-41

Yes

No (skip to E-45)

E-51

Yes (fill out E-52 through E-69)

No (fill out E-70 through E-72)

E-58

Circular (fill out E-59 & E-63 as appropriate)

Rectangular (fill out E-60/61 & E-64/65 as appropriate)

E-62

Yes (skip to E-66)

No (fill out respective fields)

E-73

Yes

No (skip to E-111)

E-74

Yes

No (skip to E-75)

E-75

Yes

No (skip to E-81)

E-81

Yes (fill out E-82 through E-107)

No (fill out E-108 through E-110)

E-88

Circular (fill out E-89 & E-93 as appropriate)

Rectangular (fill out E-90/91 & E-94/95 as appropriate)

E-92

Yes (skip to E-96)

No (fill out respective fields)

F-3	G-16	H-17	J-7
Aeration room	Yes	Yes	Yes
Aeration cell/chamber	No	No (skip to H-20)	No (skip to J-12)

F-4	G-20	H-22
Yes	Yes	Yes
No (skip to F-6)	No (skip to G-28)	No (skip to H-23)

F-5	H-23
Pull vacuum	Yes
Multiple inlet and outlet vents on cell	No (double click to specify)
Other (double click to specify)	

F-8	H-39
Yes	Yes
No (skip to F-9)	No (skip to H-42)

F-14
Yes
No (skip to F-22)

F-22
Yes (fill out F-23 through F-39)
No (fill out F-40 through F-42)

F-28
Circular (fill out F-29 & F-33 as appropriate)
Rectangular (fill out F-30/31 & F-34/35 as appropriate)

F-32
Yes (skip to F-36)
No (fill out respective fields)

F-44
Yes
No (skip to F-45)

ED 013075 00000138-00266

ED_013075_00000138-00267

Additional Info

Facility Details

Room Area

EtO&EG Storage

Sterilizer Chambers

Aeration

APCD Summary

APCD Details

EtO Monitoring

Miscellaneous

Attachments

Certification

E-100

Yes (fill out E-107)

No

E-101

Yes

No (skip to E-111)

E-111

Yes

No (skip to E-133)

E-112

Yes (fill out E-113 through E-129)

No (fill out E-130 through E-132)

E-118

Circular (fill out E-119 & E-123 as appropriate)

Rectangular (fill out E-120/121 & E-124/125 as appropriate)

E-122

Yes (skip to E-126)

No (fill out respective fields)

E-133

Yes (fill out E-134 through E-143)

No (skip to F-1)

E-136

Once-through

Recirculating

Other (double click to specify)

E-137

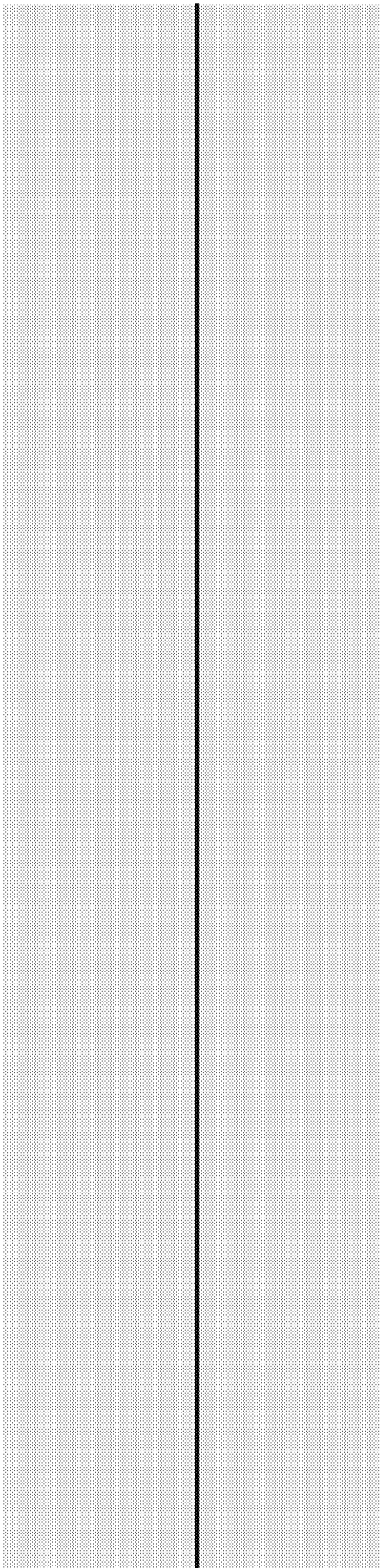
Wet seal with water

Wet seal with oil

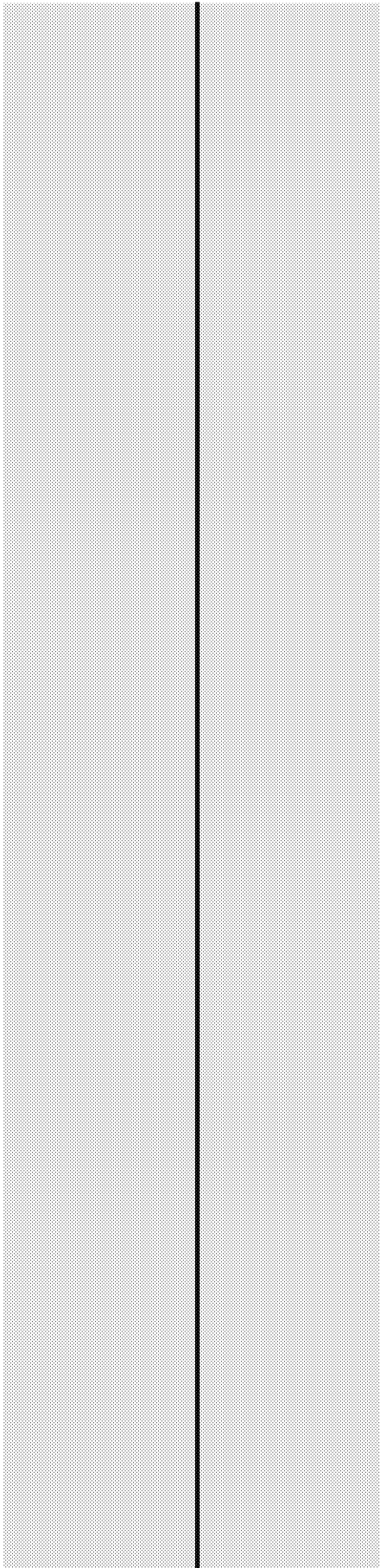
Wet seal with other fluid

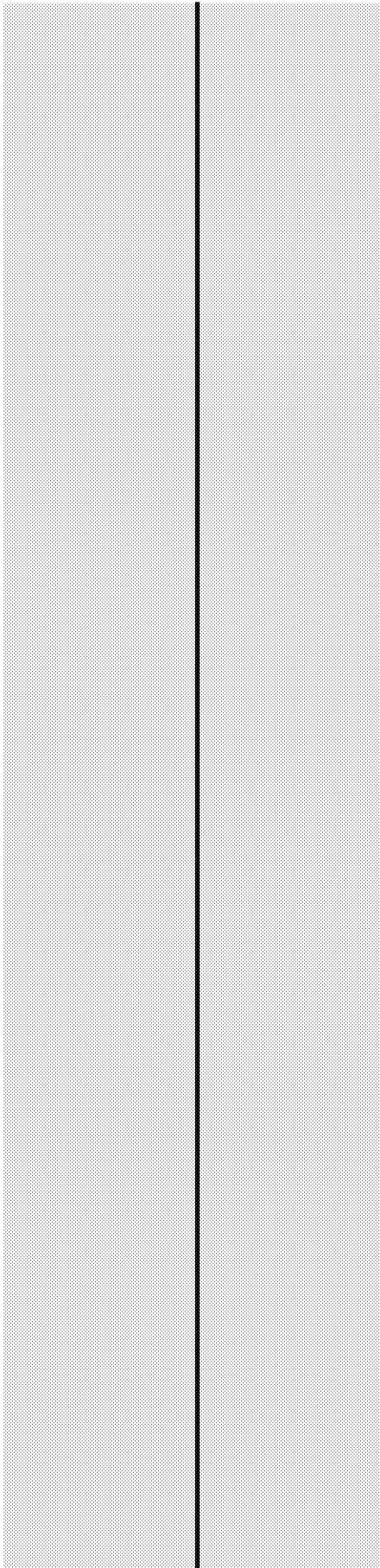
Dry seal

Other (double click to specify)

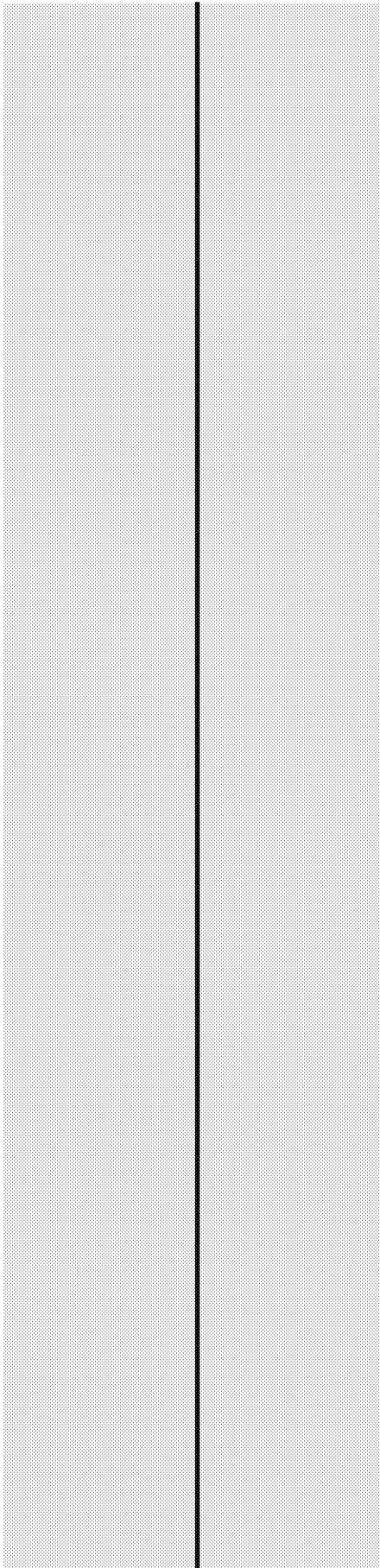


[illegible]

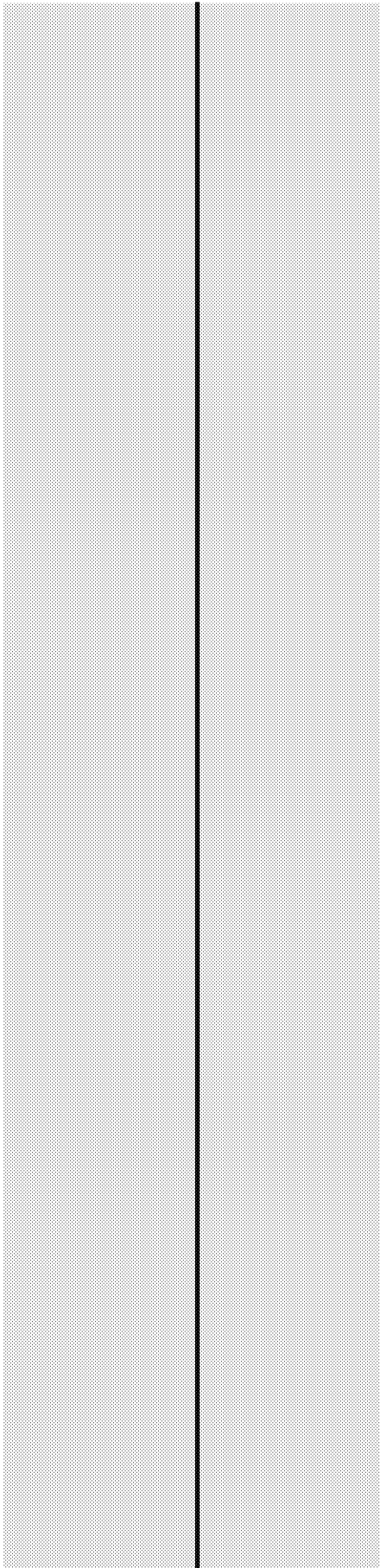




E-113



[illegible]



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